

Carpentry in New Zealand: a text book for use by apprentices

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ABSTRACT: The 1953 National Housing Conference explored a wide range of ways of dealing with the problems of post-WW II housing, including reducing the costs of construction. The New Zealand Master Builders' Federation in its conference proposal was clear that one way to reduce costs was by a skilled and educated workforce. They noted the need for "an authoritative text-book on carpentry and joinery, based on New Zealand building practice," and their proposal was adopted as Conference Resolution 17. A committee was formed to guide the content and form of the book, and anonymous staff from the Technical Correspondence School prepared the text. Geoffrey Nees (architect of Kelburn, Wellington) employed five draughtsmen to complete the nearly 500 illustrations. The 1948 book *The Australian Carpenter* by C Lloyd and the New Zealand Army Education Welfare Service (AEWS) series of five carpentry booklets formed the basis for this new book, which focused on the syllabus of the New Zealand Trade Certificate.

Carpentry in New Zealand was published in June 1958 and was an immediate success with 33,600 copies printed by September 1973. A new cover and conversion to metric units occurred in 1977, with the third edition published in 1980. The final printing was in 1987.

Introduction

The first book held by any New Zealand library relating to carpentry is the Department of Education's 1902 *Handwork for Schools: Woodwork*. It provided basic training in the use of tools and instruction to make simple items, such as a folding chair. As well as "helping teachers who are taking up woodwork in school classes" it also set out the expectations for a two-year woodwork course under the Manual and Technical Instruction Act 1900.¹

It was not until 1944 that a New Zealand book more suited for adult learners was published. A set of five carpentry booklets, totalling 640 pages, including assignments and correct answers, were prepared for the Army

Education Welfare Service (AEWS) by RH Smith of Tauranga.² Designed for the training of adult soldiers, these five booklets covered the full range of skills required to construct a wooden building, from the planning, foundations, construction and completion. A separate book, also prepared by Smith, was entitled *Drawing for Carpenters and Joiners*.

Post WWII, the AEWS booklets were not considered suitable for apprentices as they had been designed for adults and did not relate to the Trade Certification Board syllabus, although they may well have been used by teachers to help with class preparation.³

In 1951, the New Zealand Carpentry and Joinery Apprenticeship Committee inquired from the government whether a "text book in carpentry and joinery" could be prepared for use by apprentices,⁴ but action was slow. In June 1953, the Commissioner of Apprenticeship called for action,⁵ which was met by the New Zealand Technical Correspondence School (NZTCI) identifying five possible paths to prepare such a book:

- (a) expert or panel of experts; staff member NZTCI;
- (b) revise AEWS *Carpentry* handbooks;
- (c) complete the in-progress NZTCI course writing as a book; or
- (d) stop NZTCI course writing and prepare book.

1953).

⁴ Letter from Commissioner of Apprenticeship to Director of Education (9 May 1951).

⁵ Letter from Commissioner of Apprenticeship to Director of Education (15 June 1953).

¹ Isaac *Handwork for Schools* p 3.

² Smith *Carpentry*

³ Minute to Dr. Lee from R.W. Cumberworth (8 July

Table 1: 1953 National Housing Conference – Agenda
"Topics to be Covered" (National Housing Conference
National Housing Conference, 1953 p 2, Agenda)

Their recommendation was a combination of a panel of experts with an NZTCI staff member writing.⁶ At this time a more powerful external force arrived.

1953 National Housing Conference

The 1953 National Housing Conference was established to survey the housing situation after WWII and to investigate ways to implement the government's policy of making houses available to the people at a reasonable cost.⁷ Held in Parliament Buildings, Wellington, 4-7 August 1953, it was attended by 105 delegates and 59 observers from 41 industry, employer, worker, welfare, local body, finance, and other organisations. They were advised by 30 employees from 14 Government departments supported by a secretariat of 12.⁸ Note that the conference proceedings lack overall pagination, so

⁶ Memo from NZTCI to Department of Education (8 July 1953).

⁷ New Zealand Department of Statistics, *New Zealand Official Yearbook* pp. 605–607.

⁸ National Housing Conference, *National Housing Conference, 1953: Records of the Conference*. Agenda.

1. Statement of Government Policy
2. All the factors leading to high costs of houses and how these could be reduced including:-
 - (a) Techniques of building;
 - (b) Availability of labour;
 - (c) Rates of work;
 - (d) Job organization;
 - (e) Costs of sub-contracts;
 - (f) Supply, marketing and distribution of materials
3. The reasons for the large differences in costs in different towns
4. Building a lower cost home of good standard by:-
 - (a) Modifying existing standards;
 - (b) Adopting simpler or improved designs;
 - (c) Simplifying internal fittings;
 - (d) Using alternative materials
5. Securing uniformity and modernization of the building by-laws and other regulations affecting house building
6. Developing a house which can be added to meet the progressively growing needs of a family
7. Methods of financing home building from private sources including:-
 - (a) Mortgage guarantee schemes;
 - (b) Longer terms for loans;
 - (c) Financing of houses during construction and for future sales
8. Encouraging the building of more houses by:-
 - (a) Local authorities;
 - (b) Building organizations
9. Provision of multi-storey flats by local authorities or private enterprise
10. Examination of Tenancy Act with a view to :-
 - (a) Making better use of existing houses;
 - (b) Encouraging building for rental purposes
11. Assisting those who wish to do their own home building :-
 - (a) By technical advice and plans;
 - (b) By technical training and supervision
12. Encouraging rural housing
13. Building and Price Controls
14. Overcoming the shortage of land for housing
15. Reducing or spreading land development costs with a view to lightening the burden on purchasers of sections
16. Formation of an organization to carry on the objects of the Conference and :-
 - (a) Stimulate the building of houses
 - (b) Keep the public in touch with housing developments
 - (c) Keep the industry in touch with public journals

references are to the sections and page numbers where available.

The agenda topics (see Table 1) ranged from reducing the costs of construction, financing and land through to encouragement to assist those wanting to build their own home.⁹ Topic 2 covered the high costs of houses:

2. All the factors leading to high costs of houses and how these could be reduced including:-

- (a) techniques of building
- (b) availability of labour
- (c) rates of work
- (d) job organization
- (e) costs of sub-contracts
- (f) supply, marketing and distribution of materials

The government's preliminary statement noted under 2(b) that although the number of people employed in the building industry had increased since the end of the war, they might not be sufficient for the expected demand.¹⁰ The New Zealand Master Builders' Federation (NZMBF) response was to call for "an

⁹ National Housing Conference, *National Housing Conference, 1953* General Information for Delegates and Observers.

¹⁰ National Housing Conference, *National Housing Conference, 1953* Item 2, Preliminary Statement by the Government, 24 July 1953.

authoritative text-book on carpentry and joinery, based on New Zealand building practice."¹¹ The logic behind the request was that increasing the numbers and quality of apprentices would ultimately lead to more building tradesmen and a resultant reduction in the cost of housing. The concept was well accepted, with the Gasfitters Union also requesting their trade should be included."¹²

The proposal was adopted:

That the Government should give immediate authority for the preparation of trade text books suitable for the electrical, plumbing and gas fitting, carpentry, joinery and plastering apprentices.¹³

Action

A Cabinet Paper "Preparation of Trade Textbooks in the Building Industry" was swiftly prepared and approved on 22 October 1953, with the first book in a planned series to

¹¹ National Housing Conference, *National Housing Conference, 1953* Item 2(b), Summary of Views of Organizations.

¹² National Housing Conference, *National Housing Conference, 1953* Conference Proceedings Session 4, Agenda Item No. 2.

¹³ National Housing Conference, *National Housing Conference, 1953* Records of the Conference. Conference Resolution No. 17 Agenda Item Number (20). 7 August 1953.

be *Carpentry* at an estimated cost £1,600.¹⁴ This textbook, focused on the syllabus of the New Zealand Trade Certificate,¹⁵ was to be based on the AEWS booklets and the book *The Australian Carpenter* by C Lloyd, first published in 1948. NZTCI already had experience in developing trade training books, with the *Mechanics of the Motor Vehicle* first edition published in 1953.

A committee was formed with representatives from the NZ Carpenters and Joiners' Union, Commissioner of Apprenticeship, NZMBF, Post Primary Teachers' Association, Department of Education, and NZTCI.¹⁶ In addition to Lloyd and the AEWS booklets, material was available from "the Housing Division ... a booklet issued by Mr Haigh of Seddon and other material produced by Mr Orr of Hamilton and Mr Hale of Palmerston North" as well as the Forestry Service.¹⁷ The Auckland, Christchurch and Dunedin Technical Schools had also had produced relevant material.¹⁸ Support and assistance

¹⁴ Cabinet Paper C.P. (53) 1099 22 Oct 1953.

¹⁵ Minute to Dr. Lee from R.W. Cumberworth (8 July 1953).

¹⁶ Minutes of Meeting (10 Feb 1954).

¹⁷ Minutes (10 Feb 1954) p 2.

¹⁸ Minutes (10 Feb 1954) p 2.

was also provided by government departments and agencies: The Standards Institute; Ministry of Works, Housing Division; Forest Service; Entomological Research Station; and The National Publicity Studios, as well as private sector: NZ Portland Cement Association; NZMBF, JC Riddell & Co Ltd, Briscoe, EW Mills & Co Ltd and John Duthie & Co Ltd.

The committee met three times to develop the coverage and style of the proposed book.¹⁹ To maximise the value of the publication, draft chapters were cyclostyled (copied) and widely circulated for comment.²⁰

The title page of the 1958 edition records it was "written and prepared for publication by the Technical Correspondence School of the New Zealand Department of Education." However, the staff involved in the writing are not named in the records, so must continue to be anonymous.²¹ The NZTCI illustrations staff

¹⁹ Minutes for meetings (8 July 1953); (17 February 1954); and (17 June 1954).

²⁰ Technical Correspondence School, *Carpentry in New Zealand* Preface.

²¹ Education By Correspondence - New Zealand Technical Correspondence Institute - Production of Textbooks - Carpentry and Joinery 1951; Education Department - Carpentry in NZ 1960-1984.

were fully employed on other work,²² so the near 500 illustrations²³ were prepared by Geoffrey Nees, a Wellington architect, who reported he employed five draughtsmen.²⁴

The first edition of *Carpentry in New Zealand* was printed by Whitcombe & Tombs and published in June 1958. Copies were distributed at a discount through the NZMBF to apprentices, teachers and schools (£1 5s), while bookshops supplied copies at full price (£1 15s) for other purchasers.²⁵ The Minister of Education noted in the foreword that:

This textbook, designed primarily for the use of apprentices attending vocational classes in our Technical Colleges, provides an authoritative guide to New Zealand practice in carpentry. It will appeal, I am sure, to a much wider public, including that sturdy, independent, do-it-yourself household, so commonly met in this country.²⁶

Once the book was published and promoted,

²² Memorandum for Director of Education from Principal (25 March 1955).

²³ Superintendent of Technical Education to Minister of Housing, letter (23 May 1956).

²⁴ Letters from Mr Nees (14 June 1955, 25 Aug 1955).

²⁵ Memo F58/5 from Superintendent of Technical Education (2 July 1958).

²⁶ Technical Correspondence School, *Carpentry in New Zealand*, Foreword.

Publication Date	Copies	Pp	Cover Title
30 June 1958	10,000	242	<i>Carpentry in New Zealand</i>
February 1960	10,000	242	<i>Carpentry in New Zealand</i>
March 1963	10,000	242	<i>Carpentry in New Zealand</i>
June 1966	9,930	242	<i>Carpentry in New Zealand</i>
March 1970	4,802	242	<i>Carpentry in New Zealand</i>
August 1971	4,909	242	<i>Carpentry in New Zealand</i>
September 1973	4,000	242	<i>Carpentry in New Zealand</i>
1977		302	<i>Carpentry</i>
1980		302	<i>Carpentry</i>
1986		323	<i>Carpentry</i>
1987		323	<i>Carpentry</i>
1989		323	<i>Carpentry</i>

Table 2: *Carpentry in New Zealand* – editions and reprints

some industry participants felt it would lead to undesirable competition from do-it-yourself home owners. The NZMBF was not happy with its promotion to "the 'Do It Yourself' householder,"²⁷ nor were the Otago Carpenters, Joiners and Joiners Machinists Industrial Union of Workers.²⁸ The concerns are interesting, as the Australian book was originally advertised as being suitable for the home handyman.²⁹

There were only compliments about the

²⁷ Letter from Director NZMBF to Director of Education (14 July 1958).

²⁸ Letter from Secretary to Minister for Education (4 August 1958).

²⁹ A.N.B. "Home Carpentry" p 22.

quality of the publication. For example, the Director of the NZMBF wrote to the Minister of Education offering praise for the fine quality of "the excellent publication."³⁰

Later Editions

The book was very popular, with some 33,600 copies printed between June 1958 and September 1973.³¹ A fire in the Tivoli Theatre, Wellington in December 1962 destroyed the bulk stock holdings, necessitating an additional reprint.³² The publication continued unchanged, except for a new cover and conversion to metric units in 1977, until the final edition (with amendments) was published in 1980. The final printing was in 1987. Table 2 provides a summary of the publication dates, number of copies printed (where available), number of pages and the official title. The large fold-out house plans in the 1977 edition were replaced by reduced scale plans on the normal page from the 1986 edition.

³⁰ Letter from Minister of Education to Director, NZMBF (4 May 1953).

³¹ Notes inside cover of folder, Education Department - Carpentry in NZ 1960 - 1984.

³² Notes inside cover of folder, Education Department - Carpentry in NZ 1960 - 1984.

Following the success of *Carpentry in New Zealand*, NZTCI published similar works for plumbing,³³ electricity for motor mechanics³⁴ and joinery.³⁵

Competition

The only commercial opposition was *Woodwork – for student, apprentice and handyman* by Frank Wilkins, first published in 1968 by Whitcombe and Tombs Ltd. Its introduction states its purpose was to cover the scope of the School Certificate prescription. It also covered the full range of building work for a conventional timber-frame shed with either a suspended or concrete slab-on-ground floor and weatherboard or asbestos cement sheet cladding.³⁶ The revised metric edition was published in 1973 and a third edition in 1981.³⁷ Although *Carpentry in New Zealand* was the only textbook until 1968, other information

³³ *Plumbing in New Zealand*

³⁴ *Electricity for Motor Mechanics*

³⁵ New Zealand Technical Correspondence Institute *Joinery 1. Doors; Joinery 2. Door Frames and Special Doors; Joinery 3. Window Joinery Fitments; Joinery Part IV. Woodworking Machinery; Joinery. 4. Stairs, Decorative Laminates, Glulam and Aluminium Joinery.*

³⁶ Wilkins *Woodwork* 1st edition, pp 9, 281–318.

³⁷ Wilkins *Woodwork* Rev. metric edition; Wilkins *Woodwork* 3rd edition.

resources were available to the industry. In addition to commercially available publications and standards, from the 1950s and 1960s the New Zealand Forest Service published guides on the use of New Zealand building timbers, including local (indigenous and exotic) as well as imported timbers.³⁸ The Building Research Bureau, another outcome of the 1953 Conference (in 1970 to become the Building Research Association of New Zealand) published 232 bulletins from 1959 to 1982.³⁹

Contents

Figure 1 compares the number of pages for each topic in the first (1958) and revised second (1980) editions. The page numbers are given in the second column, the count of pages in the third and the fourth gives a simple column chart of the number of pages.

Figure 1 shows the heavy weighting in the 1958 edition of roofing (39 pages) and timber (29 pages). A review in 1974 identified the need for updating not only the topics and standards but also the language. It recommended the addition of material on

³⁸ Reid *Building Timbers in New Zealand*; Reid *New Zealand Building Timbers*.

³⁹ Wells *History of the Building Research Bureau*.















































Edition: Year:	1 st 1958 (242 pages)		2 nd 1980 (312 pages)	
	Range	Pages	Range	Pages
Introduction	11		10	
Table of Contents	1		11-14	4 
Safety in Building Construction			15-24	10 
Carpenters Tools	11-33	23 		
Hand Tools			25-42	18 
Machinery			43-54	12 
Hardware	33-37	5 	270-292	23 
Building Preliminaries – plans & permits	38-45	8 		
Preliminaries			82-88	7 
Setting out & levelling			89-99	11 
Timber	46-74	29 		
Materials (inc. timber)			55-81	27 
Foundations	75-89	15 	100-110	11 
Formwork			111-124	14 
Reinforced concrete			125-136	12 
Framing				
Floor Framing	90-98	9 	137-147	11 
Wall Framing	99-110	12 	148-155	8 
Roofing – roofs & roof framing	111-149	39 		
Roof framing			168-182	15 
Roof coverings			183-188	6 
Exterior Wall Coverings	150-165	16 	194-206	13 
Exterior Joinery			207-221	15 
Flooring	166-171	6 	222-231	10 
Fixing Joinery	172-186	15 		
Interior Wall Coverings	187-190	4 	232-247	16 
Interior Joiner			248-257	10 
Interior Finishing			258-269	12 
Interior & Exterior Finishing	191-208	18 		
Attendance on other Trades	209-211	3 	189-193	5 
Scaffolding	212-217	6 	156-167	12 
Formwork for Concrete	218-228	11 		
Concrete	229-237	9 		
Building Science			293-302	10 
Fold-out house plans	None		303+	10 
Index	238-242	5 	None	

Figure 1: *Carpentry in New Zealand* - coverage

safety, "basic science for carpenters," and reinforced concrete, while reducing the sections on hand tools (but adding machinery) and timber (but adding new building materials such as plywood, particle boards and metal framing).⁴⁰ The keeping of the index was also supported, but as can be seen in Figure 1, the index was replaced by a more extensive table of contents.

Documenting Changes

A consequence of the updating the second edition is that the editions provide a snap-shot of current trade practice at the time of publication. One of the most noticeable changes was the availability of different types of timber.

In 1944 Smith noted that rimu was "used for all general building purposes both for outside and inside trim and is very durable above the ground"⁴¹ and that apart from the wide use of pine in box making, "it has no great market in the building field, principally because of the lack of adequate grading rules and classification."⁴²

⁴⁰ Memo on Revision "Carpentry in NZ"

⁴¹ Smith *Carpentry* 1:28.

⁴² Smith *Carpentry* 1:27.

By the 1950s only nine native tree species were locally used,⁴³ while those still commercially available in 1980 are given here in bold⁴⁴:

- * **Softwoods:** kauri, **rimu**, **matai**, **totara**, **kahikatea** and **miro**
- * **Hardwoods:** **red beech**, **silver beech** and **tawa**.

The dwindling supplies of native timber had been replaced by the relative new comer, the exotic *Pinus radiata*, which, even by the late 1950s, had become "second only to rimu in commercial importance."⁴⁵

For the 1980 edition native timbers were still the focus,⁴⁶ although only a few years later the cutting of native timbers from government land had largely stopped, the slow growing resource heavily reduced. In 1993, the Forests Act was amended to stop unsustainable logging of native forests,⁴⁷ so treated *pinus radiata* became the general-purpose

⁴³ Technical Correspondence School *Carpentry in New Zealand* pp 46, 72–73.

⁴⁴ New Zealand Technical Correspondence Institute, *Carpentry* pp 60–61.

⁴⁵ Technical Correspondence School *Carpentry in New Zealand* p 73.

⁴⁶ New Zealand Technical Correspondence Institute *Carpentry* p 57.

⁴⁷ Swarbrick "Logging Native Forests" np.

construction timber.⁴⁸

No doubt if a further edition was prepared in 2015, native timbers would be removed while *pinus radiata* and douglas fir would be covered with an extensive discussion of preservative treatments. The wider range of surface (interior and exterior) finishings and fixings would also need greater discussion, as would the use of portable power tools.

Conclusion

The 1958 book *Carpentry in New Zealand* was seen as a crucial part of reducing the cost of housing by the creation of a trained and skilled workforce. The investment of time and resources by government departments and agencies was seen as contributing to the good of the nation, as well as to assisting New Zealanders to purchase quality housing.

The change in government and public attitude in the 1980s, ultimately leading to the performance based New Zealand Building Code (NZBC), coupled with changes in apprentice training, appeared to remove the need for such a publication. Although it was

⁴⁸ New Zealand Technical Correspondence Institute *Carpentry* p 60.

revised in 1977, the last reprint of *Carpentry* was in 1989. The *BRANZ House Building Guide*⁴⁹ provided a successor, although focused on issues of NZBC compliance rather than good trade practice.

⁴⁹ Pringle *BRANZ House Building Guide*.

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